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ABSTRACT

A study was conducted in Wyoming to determine the scope and economic value of supervised occupational experience programs (SOEPs) in vocational agriculture. The study tried to determine the level of participation and success realized by females engaged in SOEP activities, and to find out to what degree males and females engage in balanced SOEPs, maintaining both livestock and crop enterprises. All vocational agriculture teachers in the state were asked to collect data from each student enrolled in Vocational Agriculture in 1983. Data were received for 1,032 students from 29 schools (71 percent of all programs). These data were compared with results from a 1980 study. Some of the results of the 1983 study are as follows: (1) in 1983, a larger percentage of girls conducted horse enterprises, while in 1930, the ratio was about the same; (2) the ratio of females to males engaged in swine, dairy, crops, and placement is below the ratio for the total group; (3) the ratio of females to males conducting beef enterprises increased in 1983 compared to 1980; (4) the number of enterprises per student increased for females but decreased for males from 1980 to 1983; (5) the trend in total income earned from agribusiness placement for girls continues to be less than that for boys, while the total income earned by girls in production showed a trend to exceed that earned by boys in 1983, a reversal of 1980; and (6) the trend toward heavy emphasis on livestock enterprises continues for both boys and girls. The results of this study suggest varying degrees of success of females with SOE programs in vocational agriculture. The results from the 1983 data appear to be significant enough that further study is warranted to determine if sex bias is a factor in agribusiness placement. (KC)

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A Comparison of Supervised Occupational Experience Programs Conducted by Males and Females in Wyoming

A Report of Research

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Very little disagreement has been voiced concerning the importance of the Supervised Occupations Experience Program (SOEP) as an integral part of Vocational Agriculture. What has been debated, however, as a key issue, is the current status and strength of SOEP for male and female students.

Introduction

For the past nine years, individual SOEP data have been collected from the vocational agriculture students in Wyoming. Data were collected on type of enterprise, scope, total income and expenses, and net profit. A copy of the report form is included in Appendix A. Each year, summaries were tabulated for schools and distributed. A statewide summary was also prepared.

In considering the importance of SOEP, realizing the trend of a higher participation by females, and anticipating the trend toward more placement by females, and anticipating the trend toward more placement in agribusiness, several questions were raised:

1. What is the scope and economic value of SOEP's?
2. What level of participation and success is realized by females engaged in SOEP activities?
3. To what degree do males and females engage in balanced SOEP's maintaining both livestock and crop enterprises?

Question number one was raised to determine the economic importance of SOEP's to the agriculture of the state. It was anticipated that females involved in SOEP's (question number two) were participating at lower levels and realizing lower levels of success than were males. It was also hypothesized that students were not planning a balanced SOEP (livestock and crop enterprises), especially females.

This study was conducted on the data collected for the year 1980. At that time, none of the questions regarding differences between boys and girls in income earned, number of enterprises conducted, and balance of types of enterprises were proven statistically to be true. However, there were enough trends shown for concern, namely, girls earned lower incomes in agribusiness placement than boys, girls tended to select sheep and horse enterprises and very few selected crop enterprises. Because these trends approached significant difference levels, it justified duplicating the study on the 1983 Supervised Occupational Experience (SOE) statewide data just recently collected.

Method

All vocational agriculture teachers in the State were asked to collect data from each student enrolled in Vocational Agriculture on their total SOEP. The report form includes sex, year enrolled in the program, FFA degree, scope, income, expenses, and net profit for each enterprise. The data were then summarized and reports were obtained for each school and for the State.

In analyzing the data to obtain answers to the questions posed, the following variables were selected as measures of success and level of involvement:

1. Scope
2. Scope/student
3. Net profit/student
4. Number enterprises/student
5. Total income/student

Results

Data from 1032 students enrolled in vocational agriculture in 29 schools (71 percent of all programs) were received for the year 1983. Information from each student's report were keypunched and the data were processed by computer. Frequencies, T-tests. Chi-Square and multivariate analysis were utilized in analyzing the data.

First, total income was observed to determine the economic impact of SOEP's on the State's agriculture. Vocational Agriculture students generated 2,269,795 dollars in total income in 1983. This amount represents an average of 2,200 dollars per student. The distribution of SOEP's by enterprise and sex are reported in Table I.

TABLE I

SOEP Enterprises conducted by Wyoming Students In 1983

Enterprise	Number	Percent	Males (N)	Females (N)	Females (% of Total in Enterprise)
Beef	318	33	215	103	32
Sheep	214	22	140	74	35
*Swine	97	10	74	23	24
Horses	63	7	25	38	60
*Dairy	15	2	12	3	20
*Crops	46	5	43	3	7
*Placement	207	21	182	25	12
Total	960	100	691	269	NA

*Starred items indicated enterprises in which the ratio of females to males is below the ratio of females to males (28%) in the total group.

The data in the table suggest that SOEP's conducted by females is uniquely different from that of males. Another concern of mention is the unusually high percentage of females found engaged in horse enterprises.

To determine whether differences in scope and success of SOEP's due to grouping by sex did exist, additional comparisons were made. Number of enterprises per student were compared, using the T-test to determine if significant differences existed between males and females (Table II).

TABLE II

Number of Enterprises Per Student Grouped By Sex

Sex	Enterprises Per Student	T-Score	2-Tail Probability
Males	1.78	-3.19	.002
Females	2.23		

The result indicates that girls are enrolled in more enterprises than males. This result is a drastic change from the result obtained in 1981 when no difference occurred between the sexes.

Total income per student was compared for the agribusiness and production enterprise SOEP's and grouped by sex. Because of the agribusiness placement enterprise consisting of employment in contrast with the production enterprises which are entrepreneural in nature, the two groups were analyzed separately. The results are reported in Table III.

Table III

Total Income Per Student Grouped By Sex

Agribusiness Placement Enterprises

Sex	Total Income Per Student	T-Score	2-Tail Probability
Males	1989.53	1.92	.07
Females	1193.74		

Production Enterprises

Males	3469.77	-1.60	.11
Females	5151.83		

The total income per student analysis resulted in some interesting comparisons. For agribusines placement-type enterprises, total income for girls continues to show a trend toward lower earnings than that received by boys. The .07 level of probability, using the 2-tailed test is very close to the significant difference level selected.

On the other hand, the trend is reversed when comparing total income from production-type enterprises. Although the higher income level for girls (mean=5151.38) is not significantly different from that of boys (mean=3469.77), the trend is fairly strong (probability level lf .11).

Success in one's SOEP was then considered using the variable, net profit per student, grouped by sex. Agribusiness placement enterprises were again analyzed separate from production enterprises because of the dissimilarity in nature between the two types. The results of the T-test are reported in Table IV.

TABLE IV

Net Profit Per Student Grouped By Sex

Sex	Net Profit Per Student	T-Score	2-Tail Probability
Agribusiness Placement Enterprises			
Males	1329.40	.36	.72
Females	1160.45		
Production Enterprises			
Males	637.46	-.71	.478
Females	851.56		

Neither of the comparisons indicated a significant difference between boys and girls on net profit per student. It was interesting to note, however, that of the students conducting production-type enterprises, the mean net profit for females was greater than that for males.

One final comparison was conducted to determine the level of participation by females in SOEP's. One measure of in-depth participation was to determine the number of students who had both livestock and crop enterprises in their SOEP. In performing this analysis, students were grouped according to the following criteria:

1. All students who had either livestock enterprises or crop enterprises but not both.
2. All students who had one or more livestock enterprises and one or more crop enterprises.

These groups were compared again by sex using the Chi Square technique to determine if significant differences existed. The results are presented in Table V.

TABLE V

Students With Combination Enterprises
Versus Singular Types Grouped By Sex
(frequencies expressed in percent)

Sex		Livestock or Crop Enterprises	Both Livestock and Crop Enterprises	Row Total
Males	Row (Across)	93.1	6.9	71.1
	Column (Down)	70.0	91.3	
Females	Row (Across)	98.4	1.6	28.9
	Column (Down)	30.0	8.7	
Column Total		94.6	5.4	100

Chi Square = 3.85, p = .05

A significant difference between students grouped by sex was obtained. This result indicates that there is a difference between the percentage of females who plan a more diversified SOE than males. More importantly, however, the surprising result was the extremely low percentage of males as well as females that did not include livestock and crop enterprise combinations in their SOEP's.

Summary

A comparison of the results of this study (1983 data) with those of the previous study[1] (1980 data) indicates several differences. For clarification purposes it would be appropriate to view the differences between the two reports which are as follows:

1. In 1983 a larger percentage of girls conducted horse enterprises. In 1980, the number of females to males was about the same.
2. The ratio of females to males engaged in swine, dairy, crops and placement is below the ratio for the total group in 1983; in 1980 the trend was the same except for beef enterprises.
3. The ratio of females to males conducting beef enterprises increased in 1983 compared to 1980.

4. The number of enterprises per student increased for females from 1980 to 1983; for boys, the number decreased to an average below that of girls.

5. The trend in total income earned from agribusiness placement for girls continues to be less than that for boys. Total income earned by girls in production in 1983 showed a trend to exceed that earned by boys, a reversal from the trend evident in 1980.

6. The trend toward heavy emphasis on livestock enterprises continues when comparing the 1983 results with those of 1980. A very low percentage of males and females alike conduct a comprehensive SOE program of both livestock and crops.

Conclusions

The results of this study suggest varying degrees of success of females with SOE programs in vocational agriculture. Girls do well in production enterprises. They conduct more enterprises and generate more income than males. However, in the agribusiness placement area, girls continue to show lower earning levels than boys.

The results from the 1983 data appear to be significant enough that warrant further study to determine if sex bias is a factor.

Recommendations

Based on the findings of this study, the following recommendations are offered:

1. The results of this report should be disseminated to all vocational agriculture leaders in Wyoming.

2. Further investigations should be initiated to determine whether sex bias in agribusiness placement exists.

3. A continuation of this study should be maintained to monitor the progress (or lack of it) with respect to the success of girls in vocational agriculture supervised occupational experience programs.

Limitations

The 1983 data used in this study was not complete. Only 71 percent of Wyoming's vocational agriculture departments were represented. Also, since many students complete the forms, problems with incorrect or missing data are constantly faced.

References

I. Reynolds, Carl. "A Comparison of Supervised Occupational Experience Programs Conducted by Males and Females in Wyoming," A Report of Research, Department of Vocational Education, University of Wyoming, Laramie, Wyoming, February 1982.

Wyoming
Record of Agriculture Students

NAME: LAST	FIRST	7. Birthdate	8. Male ___ Female ___	9. Rural ___ Urban ___	10. School No.	11. Student No.

12. Year	13. *Experience Program CODE	PROGRAM	14. Scope	15. Total Hours	16. Total Expense	17. Net Return	18. Total Net Return	19. FFA Degree Code
Example: 1976	71	Breeding Beef	3	650.00	525.25	124.75	124.75	2